



Attorney Docket No. 89538
Client No. S8277PWOUS

SUBSTITUTE SPECIFICATION

METHOD AND AN APPARATUS FOR THE THREE-DIMENSIONAL MEASUREMENT OF OBJECTS

Background of the Invention

[0001] The invention relates to a method and to an apparatus for the three-dimensional measurement of objects.

[0002] In known methods for the three-dimensional measurement of objects such as workpieces, the objects are positioned on a measuring table at which an apparatus with a measuring element is movably arranged for the scanning of the outer contours of the objects, with the location of the measuring element being able to be determined via linear, three-dimensional transducers in the x, y and z directions. As a rule, the measuring table is a ground, solid block of marble which is usually installed in a stationary manner.

[0003] The measuring element consists, for example, of a scanning measuring sphere which is mechanically connected to a force sensor to ensure a continuous contact with the object. On scanning, the measuring sphere is moved into contact with the object and along the object. A computer determines the outer dimensions of the three-dimensional object from the movement of the measuring sphere along the object using the linear transducers which have a precisely fixed location to the measuring table. Other apparatuses with pneumatic feelers, which can also be positioned into the openings of the workpiece, are used for the measurement of inner dimensions.

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